



Performance Data Sheet

TPA1390YXA

General Information

| | | | |
|-----------------------|--------------------------|---------------------------------|-------------|
| Model | TPA1390YXA | Refrigerant | R-134a |
| Test Condition | ASHRAE | Performance Test Voltage | 115V ~ 60HZ |
| Return Gas | 32.2°C (90°F) RETURN GAS | Motor Type | PTCS_CR |

Performance Information

| Evap Temp (°F) | Condensing Temperature (°F) | | | | | | | |
|----------------|-----------------------------|------|------|------|------|------|------|------|
| | | 80 | 90 | 100 | 110 | 120 | 130 | 140 |
| -40 | Btu/h | 510 | 473 | 444 | 419 | 394 | 364 | 324 |
| | Watts | 99.6 | 103 | 105 | 106 | 106 | 105 | 104 |
| | Amps | 0.69 | 0.73 | 0.77 | 0.79 | 0.80 | 0.79 | 0.75 |
| | Lb/h | 7.71 | 7.14 | 6.71 | 6.33 | 5.95 | 5.50 | 4.89 |
| -35 | Btu/h | 573 | 536 | 509 | 487 | 465 | 438 | 403 |
| | Watts | 107 | 111 | 114 | 115 | 115 | 114 | 114 |
| | Amps | 0.83 | 0.86 | 0.89 | 0.92 | 0.93 | 0.92 | 0.90 |
| | Lb/h | 8.67 | 8.11 | 7.70 | 7.36 | 7.03 | 6.63 | 6.09 |
| -30 | Btu/h | 652 | 615 | 588 | 567 | 547 | 523 | 491 |
| | Watts | 115 | 120 | 123 | 124 | 125 | 125 | 125 |
| | Amps | 0.95 | 0.99 | 1.02 | 1.04 | 1.06 | 1.06 | 1.04 |
| | Lb/h | 9.87 | 9.31 | 8.90 | 8.58 | 8.28 | 7.92 | 7.44 |
| -25 | Btu/h | 747 | 708 | 681 | 660 | 641 | 619 | 590 |
| | Watts | 123 | 129 | 132 | 135 | 136 | 137 | 138 |
| | Amps | 1.07 | 1.11 | 1.14 | 1.17 | 1.19 | 1.20 | 1.19 |
| | Lb/h | 11.3 | 10.7 | 10.3 | 10.0 | 9.71 | 9.38 | 8.93 |
| -20 | Btu/h | 858 | 816 | 787 | 765 | 746 | 725 | 697 |
| | Watts | 131 | 138 | 142 | 145 | 148 | 149 | 151 |
| | Amps | 1.18 | 1.22 | 1.26 | 1.29 | 1.32 | 1.34 | 1.34 |
| | Lb/h | 13.0 | 12.4 | 11.9 | 11.6 | 11.3 | 11.0 | 10.6 |
| -15 | Btu/h | 984 | 940 | 908 | 884 | 864 | 842 | 815 |
| | Watts | 140 | 147 | 152 | 156 | 160 | 162 | 165 |
| | Amps | 1.28 | 1.32 | 1.36 | 1.41 | 1.44 | 1.47 | 1.49 |
| | Lb/h | 14.9 | 14.3 | 13.8 | 13.4 | 13.1 | 12.8 | 12.4 |
| -10 | Btu/h | 1130 | 1080 | 1040 | 1020 | 993 | 970 | 942 |
| | Watts | 148 | 156 | 162 | 168 | 172 | 176 | 180 |
| | Amps | 1.37 | 1.41 | 1.46 | 1.51 | 1.56 | 1.60 | 1.63 |
| | Lb/h | 17.1 | 16.4 | 15.8 | 15.4 | 15.1 | 14.8 | 14.3 |
| -5 | Btu/h | 1290 | 1230 | 1190 | 1160 | 1130 | 1110 | 1080 |
| | Watts | 155 | 164 | 172 | 179 | 184 | 190 | 195 |
| | Amps | 1.44 | 1.49 | 1.55 | 1.61 | 1.67 | 1.72 | 1.77 |
| | Lb/h | 19.6 | 18.7 | 18.1 | 17.7 | 17.3 | 16.9 | 16.4 |

| | | | | | | | | |
|----|-------|------|------|------|------|------|------|------|
| 0 | Btu/h | 1460 | 1400 | 1350 | 1320 | 1290 | 1260 | 1230 |
| | Watts | 162 | 173 | 182 | 190 | 197 | 204 | 211 |
| | Amps | 1.49 | 1.55 | 1.62 | 1.69 | 1.77 | 1.84 | 1.90 |
| | Lb/h | 22.3 | 21.4 | 20.6 | 20.1 | 19.6 | 19.2 | 18.7 |
| 5 | Btu/h | 1650 | 1580 | 1530 | 1490 | 1450 | 1420 | 1380 |
| | Watts | 168 | 180 | 191 | 200 | 209 | 217 | 226 |
| | Amps | 1.53 | 1.60 | 1.68 | 1.76 | 1.85 | 1.94 | 2.02 |
| | Lb/h | 25.3 | 24.2 | 23.4 | 22.7 | 22.2 | 21.7 | 21.1 |
| 10 | Btu/h | 1860 | 1780 | 1720 | 1670 | 1630 | 1590 | 1550 |
| | Watts | 173 | 187 | 199 | 210 | 221 | 231 | 241 |
| | Amps | 1.54 | 1.62 | 1.72 | 1.82 | 1.92 | 2.03 | 2.13 |
| | Lb/h | 28.5 | 27.3 | 26.4 | 25.6 | 25.0 | 24.4 | 23.7 |

| COEFFICIENTS | CAPACITY | POWER | CURRENT | MASS FLOW |
|--------------|---------------|---------------|---------------|---------------|
| C1 | 3.060886E+03 | -3.753105E+01 | 1.765379E+00 | 4.662014E+01 |
| C2 | 5.378960E+01 | -8.156923E-01 | 8.211514E-03 | 8.294469E-01 |
| C3 | -3.793673E+01 | 4.273520E+00 | -1.619200E-02 | -5.765316E-01 |
| C4 | 4.952792E-01 | -3.873467E-02 | -6.295933E-04 | 7.813022E-03 |
| C5 | -2.769090E-01 | 2.418124E-02 | -1.393156E-04 | -4.231859E-03 |
| C6 | 2.866767E-01 | -2.817074E-02 | 2.099230E-04 | 4.353172E-03 |
| C7 | 1.247467E-04 | -2.356734E-04 | -2.497684E-06 | 4.016939E-06 |
| C8 | -2.098196E-03 | 2.817215E-04 | 3.186609E-06 | -3.227872E-05 |
| C9 | 7.857153E-04 | 2.574754E-05 | 1.866234E-06 | 1.192507E-05 |
| C10 | -7.807801E-04 | 7.358414E-05 | -6.247992E-07 | -1.185203E-05 |

$$\text{Value} = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3$$

Te = Evaporator Temperature

Tc = Condensing Temperature